

1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0

Claims 57-60, 62-71, and 88-90 are pending in the present application. Claims 53-56 have been withdrawn from consideration based on a restriction requirement, Claims 72-87 were previously cancelled, and Claims 53-56 and 61 are cancelled in the present amendment (subject to applicants' rights to file a divisional application directed to the non-elected claims during the pendency of the present application). New Claims 88-90 have been added, and Claims 57 and 62 have been amended to more clearly define the invention.

On November 8, 2005, applicants' attorney (Michael King, Registration No. 44,832) and Examiner Cole discussed the Office Action dated August 12, 2005. In particular, applicants' attorney discussed the failure of the prior art to teach or suggest the use of a delustered synthetic fiber as an absorbent, as well as applicants' objective evidence of unexpected results with respect to the superior performance of recycled delustered synthetic fibers as an absorbent as compared to the performance of virgin synthetic fibers as an absorbent.

Applicants' attorney pointed out that one of the references cited by the Examiner (German Patent DE3728899C) teaches that municipal trash can be processed to achieve several different recycled waste streams, including a recycled fiber stream that could be used as an absorbent. Additional art cited by the Examiner (Mendes- U.S. Patent No. 5,779,392) indicated that virgin synthetic fibers can be used as an absorbent.

Applicants' attorney disclosed to the Examiner that applicants had test data that indicated that recycled synthetic fibers appear to be a superior absorbent as compared to virgin synthetic fibers. Applicants' attorney noted that in general recycled fibers are considered to be inferior to virgin fibers, because recycled fibers often are weaker than virgin fibers, and the incorporation of large amounts of recycled fibers into products can often lead to inferior products. The fact that applicants' recycled synthetic fibers appeared to be a superior absorbent represented an unexpected result. Upon further investigation, applicants determined that the recycled synthetic fibers superiority appear to be based on the fact that synthetic fibers used in textiles are delustered, whereas virgin synthetic fibers used as absorbents are not delustered (as delustering was not known to provide any benefit with respect to producing a superior absorbent, but is required to produce superior textiles). Applicants' attorney noted

1 that the prior art does not teach or suggest that delustering a synthetic fiber would yield a superior
2 absorbent product.

3 While no specific agreement on the patentability of any of the pending claims was reached, the
4 Examiner indicated that she would be willing to consider applicants' evidence of secondary
5 considerations (i.e., the unexpected result) as well as the arguments presented by applicants' attorney in
6 the telephone interview, when presented in written form.

7 Applicants' attorney thanks the Examiner for her time and willingness to discuss the issues in a
8 telephone interview.

9 Claims Rejected under 35 U.S.C § 103

10 The Examiner has rejected each pending claim as being obvious over several references,
11 including Mendes (U.S. Patent No. 5,779,392), a German Patent (DE3728899C), and a textile
12 reference book (Complete Textile Glossary). Essentially, the Examiner argues that Mendes discloses
13 a sorbent that is not delustered, that delustering is well known, and that the German reference teaches
14 that a sorbent can be made by shredding waste. The Examiner concludes that it would therefore have
15 been obvious to shred delustered fabric to achieve a sorbent. Applicants respectfully disagree for the
16 following reasons.

17 With respect to independent Claim 57, applicants note that the method defined therein
18 specifically recites the step of shredding synthetic fabric scrap, wherein the synthetic fabric scrap
19 comprises delustered synthetic fibers. The German reference (DE3728899C) specifically refers to
20 sorting mixed waste of *domestic rubbish* to achieve a paper stream, a plastic stream, and a remainder
21 stream. The remainder stream is further shredded and reduced in a hammer mill for subsequent
22 sorting. A fiber stream can be removed from the remainder stream and used for wadding, fuel
23 briquettes, or an absorbent for oil. Significantly, the domestic rubbish waste stream disclosed by the
24 German reference is not equivalent to the delustered synthetic fabric scrap recited in applicants'
25 Claim 57. While the German reference does teach that recycled fibers can be used to absorb oil, the
26 German reference does not teach or suggest that synthetic fabric scrap ought to be used as a source to
27 generate recycled fibers for absorbing oil. Significantly, the German reference, nor any of the other
28 cited art, teaches or suggests that recycled fibers produced from synthetic fabric scrap comprising
29 delustered synthetic fibers would be any more suitable for absorbing oil than any other type of
30 recycled fiber.

1 Mendes (U.S. Patent No. 5,779,392) does teach that synthetic polymer fibers can be used to
2 absorb oil. However, Mendes does not teach or suggest that recycled delustered synthetic fibers
3 should be used in place of commercially available absorbents prepared from virgin synthetic fibers.
4 Significantly, Mendes does not teach or suggest that synthetic fabric scrap ought to be used as a
5 source to generate recycled delustered synthetic fibers for absorbing oil.

6 The textile reference cited by the Examiner does teach that delustering synthetic fibers for use
7 in textiles is known. Significantly, the textile reference does not teach or suggest that synthetic fibers
8 to be used as an absorbent for oil should be delustered.

9 The cited art, alone or in combination, fails to teach or suggest that recycled fibers used to
10 absorb oil should be produced using a synthetic fabric waste (as opposed to a general municipal
11 waste stream that may or may not include synthetic fabrics). The cited art also fails to teach or
12 suggest that synthetic fibers used to absorb oil should be delustered. Because dependent claims are
13 patentable for at least the same reasons as the claims upon which they depend, each claimed
14 dependent upon Claim 57 is patentable for the same reasons noted above. Accordingly, the rejection
15 of Claims 57-70 as being obvious in view of the above noted combination of references should be
16 withdrawn.

17 Referring now to independent Claim 71, applicants respectfully note that independent
18 Claim 71 defines a method for using delustered synthetic fibers to absorb a hydrocarbon (regardless
19 of whether the delustered synthetic fibers have been provided by shredding synthetic scrap, or
20 provided using some other process, such as delustering virgin synthetic fibers). As discussed above
21 in detail, the cited art simply does not teach or suggest that synthetic fibers used to absorb
22 hydrocarbons should be delustered. Accordingly, the rejection of Claim 71 as being obvious in view
23 of the above noted combination of references should also be withdrawn.

24 Secondary Considerations in Regard to the Rejections under 35 U.S.C. § 103

25 As indicated in MPEP § 2141, objective evidence of secondary considerations, such as
26 unexpected results, commercial success, long felt need, failure of others, copying by others, licensing,
27 and skepticism of experts are relevant to the issue of obviousness and must be considered in every
28 case in which they are present. When evidence of any of these secondary considerations is
29 submitted, the Examiner must evaluate the evidence.
30

1 In addition to the above discussion which points out that the prior art fails to teach or suggest
2 that delustered synthetic fibers be used as an absorbent (in place of virgin synthetic fibers which are
3 not delustered), applicants have submitted concurrently herewith a declaration by Jerry Brownstein
4 that provides objective evidence of unexpected results. The cited art shows that using virgin
5 synthetic fibers is known. The cited art also shows that using recycled fibers obtained from a
6 municipal waste stream (i.e., a waste stream not equivalent to a synthetic fabric scrap waste stream)
7 as an absorbent is known. Nothing in the cited art teaches or suggests that any particular type of
8 recycled fiber would provide superior adsorbent capabilities as compared to virgin synthetic fibers.
9 Indeed, in general recycled fibers are considered inferior to virgin fibers, and many products limit the
10 amount of recycled fibers that are introduced into such products, to avoid achieving an inferior
11 product.

12 The declaration submitted concurrently herewith provides objective evidence that adsorbents
13 consistent with those described and claimed in the present application (i.e., adsorbents comprising
14 delustered synthetic fibers) are superior to adsorbents comprising virgin synthetic fibers. This
15 represents an unexpected result. There simply is no teaching in the cited art that delustered synthetic
16 fibers should be superior adsorbents as compared to virgin synthetic fibers. The accompanying
17 declaration provides objective evidence that an absorbent comprising delustered synthetic fibers
18 produced from synthetic fabric scrap is significantly more effective at removing relatively small
19 amounts of oil from water (i.e., water polishing) than are adsorbents comprising virgin synthetic
20 fibers. The declaration indicates that the present invention provides unexpected results as compared
21 with the prior art. Furthermore, the invention described in the declaration is consistent with the
22 invention defined by the claims in the present application.

23 MPEP 716.02 indicates that "Any differences between the claimed invention and the prior art
24 may be expected to result in some differences in properties. The issue is whether the properties differ
25 to such an extent that the difference is really unexpected." The objective evidence provided in the
26 accompanying declaration indicates that a delustered synthetic fiber adsorbent was 44% more
27 effective than a virgin synthetic fiber adsorbent at polishing water (i.e., removing relatively small
28 amounts of oil from water). Such a significant increase clearly represents an unexpected result. The
29 cited art simply fails to provide any teaching that such an increase would have been expected.

30 Because the accompanying declaration provides objective evidence that the present invention

1 provides unexpected results, and because the enclosed declaration fulfills the requirements as
2 indicated in MPEP 716.02, the rejections of Claims 57-71 as being obvious in view of the cited art
3 should be withdrawn.

4 Patentability of Newly Added Claims

5 Applicants have added new Claims 88-90, none of which introduces any new matter.

6 New Claim 88 recites a method for making an absorbent comprising a plurality of synthetic
7 fibers by shredding synthetic textile scrap comprising delustered synthetic fibers. Such a process is
8 generally described in Claims 57-70 (which are directed to the *use* of an absorbent, as opposed to a
9 method for *making* an absorbent). The method defined in Claim 88 includes the steps of obtaining a
10 quantity of synthetic textile scrap comprising delustered synthetic fibers, such that the synthetic
11 fabric scrap comprises less than about ten percent non-synthetic fibers, shredding the synthetic textile
12 scrap to produce a mass of synthetic fibers comprising a mixture of relatively shorter fiber lengths
13 and relatively longer fiber lengths, substantially eliminating textile scrap and debris that have not
14 been substantially reduced to fiber.

15 The specification as filed clearly indicates that a desirable absorbent can be produced which
16 includes some amount of non-synthetic fibers (such as cotton), that is much preferred to minimize the
17 amount of non-synthetic fibers. For example, the specification as filed clearly states that a mixture
18 of about 90% synthetic to about 10% natural fibers represents one preferred embodiment (page 20,
19 paragraph 3). In the chemical analysis of the prototype absorbent described in the specification,
20 about 6% of the fibers were not synthetic (i.e., were cotton, see page 24), and about 94% of the fibers
21 were delustered synthetic fibers. Thus the term "less than about 10% non-synthetic fibers" has
22 support in the application as filed. The specification as filed also clearly discloses achieving a mass
23 comprising both relatively short and relatively long fibers. Finally, the specification clearly describes
24 eliminating patches of fabric that have not been reduced to fiber (page 20, paragraph 2). As
25 discussed in detail in the specification as filed, conventional processing of textiles to recover fibers
26 does not regard the presence of such flags as a problem.

27 New Claim 88 is novel over the cited art because the cited art does not teach or suggest the
28 step of limiting the amount of non-synthetic textile scrap to be processed to generate an absorbent. In
29 particular, the German reference that teaches processing a municipal waste stream to achieve a fiber
30 stream that can be used as an absorbent does not teach or suggest sorting the waste stream to ensure

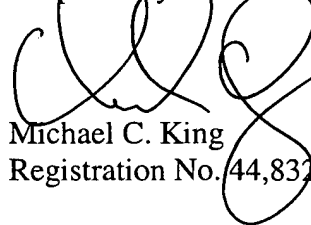
1 that no more than about 10% non-synthetic fibers will be present in the finished product.
2 Furthermore, as disclosed in applicants' specification, conventional poly shoddy manufacturing is
3 unconcerned with the presence of debris or patches of non-processed textiles in the finished product
4 (i.e., in the poly shoddy). Thus, there is no evidence that one of ordinary skill in the art would have
5 been led to modify a conventional poly shoddy manufacturing process, or the German recycling
6 process, to achieve an equivalent invention.

7 New Claim 89 recites the further step of processing the mass of synthetic fibers into at least
8 one of an absorbent pad and an absorbent blanket. This concept is clearly disclosed in the
9 specification as filed (page 22, second paragraph, to page 23, third paragraph). The prior art does
10 not teach or suggest making such a pad or blanket out of primarily delustered synthetic fibers.

11 New Claim 90 specifically recites the step of using needle punching to make at least one of an
12 absorbent pad and an absorbent blanket. This concept is clearly disclosed in the specification as filed
13 (page 23, third paragraph). The cited art does not teach or suggest using needle punching to make an
14 absorbent pad or blanket out of primarily delustered synthetic fibers.

15 Accordingly, all of the claims now submitted define patentable subject matter that is neither
16 anticipated nor obvious in view of the prior art cited. The Examiner is thus requested to issue the
17 present patent in view of the amendments and the remarks submitted above. If there are any
18 questions that might be addressed by a telephone interview, the Examiner is invited to telephone the
19 undersigned attorney, at the number listed below.

20 Respectfully submitted,

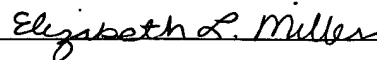
21 
22 Michael C. King
23 Registration No. 44,832

24 MCK:elm

25 MAILING CERTIFICATE

26 I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed
27 envelope as first class mail with postage thereon fully prepaid addressed to: Commissioner for Patents,
Alexandria, VA 22313-1450, on December 1, 2005.

28 Date: December 1, 2005

29 

30 **Enclosure**

Jerry Brownstein's declaration